DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-017790
Date Inspected: 26-Oct-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 1900
OSM Departure Time: 700
Location: Shanghai, China

CWI Name: See Below

Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**CWI Present:**	☑ Yes	☐ No	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☑ No	☐ N/A
				Approved WPS:	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: OBG

Summary of Items Observed:
CWI Inspectors: ZPMC: Mr. Zhang Zhong, Yu Jiao, Lv Li Qing

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. This QA Inspector observed the following:

OBG Bay 14

This QA Inspector observed ZPMC welder Mr. Chen Chuanzong, stencil 044824 used flux cored welding procedure WPS-B-T-2221-B-L2C-S-2 make OBG segment 14E weld SEG3019AL-067. This weld joins side plate SP3116B to SP3117B. This QA Inspector measured a welding current of approximately 320 amps, 31.0 volts and Mr. Chen Chuanzong appeared to be certified to make this weld. This QA Inspector observed the base materials were preheated with electric heaters prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder stencil 201087 used shielded metal arc procedure WPS-345-SMAW-2G(2F)-FCM-Repair to make repairs to OBG segment 13AE vertical plate stiffener weld VP3007-004 in accordance with weld repair document B-WR16219. The reason for this repair was due to ultrasonic rejections. This QA Inspector observed a welding current of approximately 190 amps and the base materials were preheated with electric heaters prior to commencement of welding. This QA Inspector observed

the shielded metal arc welding electrodes were stored in an electrically heated electrode storage container and it was warm to the touch. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Hu Yancheng stencil 049339 used shielded metal arc procedure WPS-345-SMAW-2G(2F)-FCM-Repair to make repairs to OBG segment 13AE vertical plate stiffener weld VP3007-042 in accordance with weld repair document B-WR16266. The reason for this repair was due to ultrasonic rejections. This QA Inspector observed a welding current of approximately 180 amps and the base materials were preheated with electric heaters prior to commencement of welding. This QA Inspector observed the shielded metal arc welding electrodes were stored in an electrically heated electrode storage container and it was warm to the touch. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC personnel performed heat straightening of OBG segment 13AE weld SEG3019-007. This weld joins side plates SP3124-001 to SP3128-009. ZPMC QC personnel monitored this activity and ZPMC has issued heat straightening document HSR #9711 for this activity. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Ms. Hue Junrong, stencil 201215 used flux cored welding procedure WPS-B-T-2132 to make OBG segment 13BW weld SEG3014H-075. This weld joins a floor beam to the bottom plate. This QA Inspector measured a welding current of approximately 260 amps and 28.0 volts. Ms. Hue Junrong appeared to be certified to make this weld and the base materials were preheated with a torch prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

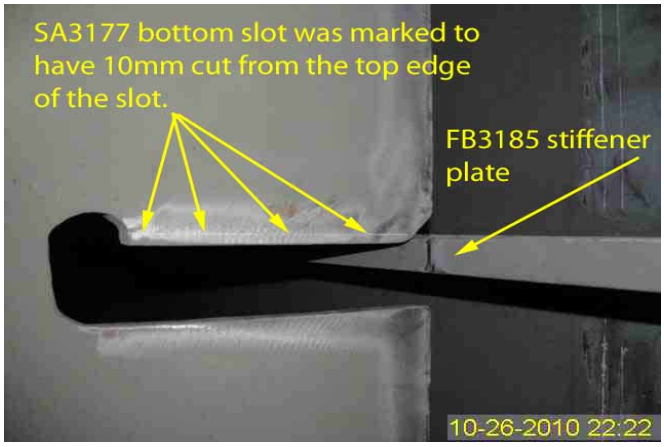
This QA Inspector observed ZPMC welder Mr. He Hanbi, stencil 202122 used flux cored welding procedure WPS-B-T-2132 to make OBG segment 13BW weld SEG3014H-025. This weld joins a floor beam to the bottom plate. This QA Inspector measured a welding current of approximately 270 amps and 27.0 volts. Mr. He Hanbi appeared to be certified to make this weld and the base materials were preheated with a torch prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

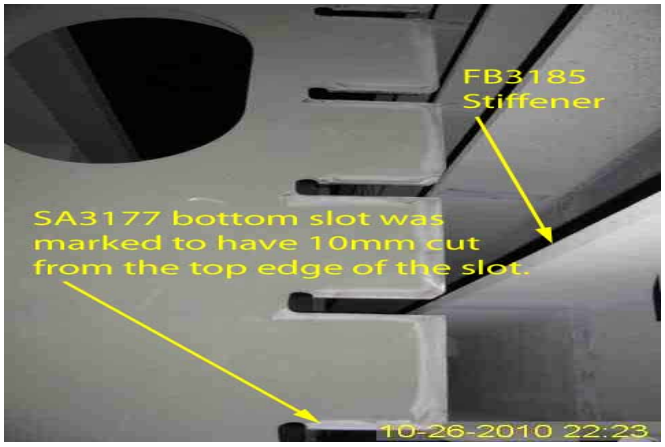
This QA Inspector observed ZPMC welder Mr. Xi Xianyou, stencil 047866 used flux cored welding procedure WPS-B-T-2132 to make OBG segment 13BW weld SEG3014F-154. This weld joins a floor beam to the bottom plate. This QA Inspector measured a welding current of approximately 260 amps and 29.5 volts. Mr. Xi Xianyou appeared to be certified to make this weld and the base materials were preheated with a torch prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

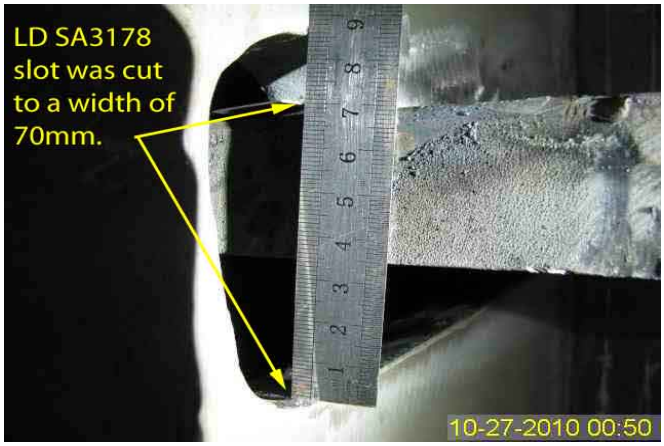
This QA Inspector observed ZPMC welder Mr. Rao Wei stencil 049972 used shielded metal arc welding procedure specification WPS-B-P-2212-FCM-1 to tack weld segment 13AE floor beam FB3185-001 to the bottom plate. This QA Inspector measured a welding current of approximately 160 amps, the base materials were preheated with a torch and Mr. Rao Wei appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC used an acetylene torch to cut approximately 10 mm of material from the top of two slots in longitudinal diaphragm sub assemblies SA1377 and SA3178 and several of the other slots were cut

between 2 and 6 mm. ZPMC cut these slots to allow floor beam FB3185-001 in place. Approved shop drawings SA3177and SA3178 specifies a 60mm wide slot as detailed on drawing SD619C and SD619D and the actual maximum observed width was 70mm in two of the slots. Drawings SA3177 and SA3178 both specify the top of the radius is to extend 25mm above the top of the slot and actual minimum height was 15mm in two of the slots. Drawings SA3177and SA3178 specify the chamfer of the upper front slot edge to be 25mm and the minimum required cope distance is approximately 15mm in two of the slots. This QA Inspector informed ZPMC CWI Mr. Zhang Zhong that an incident report will be issued to document the out of tolerance slots. See the photographs below for additional information.







WELDING INSPECTION REPORT

(Continued Page 4 of 4)

Summary of Conversations:

See Above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
Reviewed By:	Carreon,Albert	QA Reviewer